

| L Number | Hits  | Search Text                                                                 | DB                                                      | Time stamp       |
|----------|-------|-----------------------------------------------------------------------------|---------------------------------------------------------|------------------|
| -        | 79    | 707/522.ccls.                                                               | USPAT                                                   | 2003/04/03 14:33 |
| -        | 134   | 707/523.ccls.                                                               | USPAT                                                   | 2002/11/01 15:27 |
| -        | 855   | 707/513.ccls. 707/501.1.ccls.                                               | USPAT                                                   | 2003/04/03 14:32 |
| -        | 79    | 707/522.ccls.                                                               | USPAT                                                   | 2002/11/01 15:29 |
| -        | 36    | 717/111.CCLS.                                                               | USPAT                                                   | 2003/04/03 14:34 |
| -        | 88    | 717/106.CCLS.                                                               | USPAT                                                   | 2003/04/03 14:34 |
| -        | 0     | 717/2.CCLS.                                                                 | USPAT                                                   | 2003/04/03 14:32 |
| -        | 0     | 707/523.ccls.                                                               | USPAT                                                   | 2003/04/03 14:33 |
| -        | 0     | 707/522.ccls.                                                               | USPAT                                                   | 2003/04/03 14:33 |
| -        | 3     | ((DOCUMENT SAME CONVERT\$3 SAME FIELD))<br>SAME OPTIMIZ\$3)                 | USPAT                                                   | 2003/12/12 09:04 |
| -        | 21    | ((CONVER\$4 SAME (ROUTINE CODE PROGRAM))<br>SAME OPTIM\$4) SAME ATTRIBUTE   | USPAT                                                   | 2003/04/03 15:33 |
| -        | 22    | ((DYNAMIC SAME CONVER\$4) SAME PROGRAM SAME<br>DATA) SAME OPTIMIZ\$3        | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM TDB | 2003/04/03 15:36 |
| -        | 96    | 717/106.CCLS.                                                               | USPAT                                                   | 2003/04/03 15:37 |
| -        | 822   | 715/513,501.1.ccls.                                                         | USPAT                                                   | 2003/12/12 09:03 |
| -        | 104   | 717/136.CCLS.                                                               | USPAT                                                   | 2003/04/03 16:10 |
| -        | 46    | 715/522.ccls.                                                               | USPAT                                                   | 2003/12/12 09:02 |
| -        | 102   | 715/523.ccls.                                                               | USPAT                                                   | 2003/12/12 09:03 |
| -        | 38    | 717/111.CCLS.                                                               | USPAT                                                   | 2003/12/12 09:03 |
| -        | 96    | 717/106.CCLS.                                                               | USPAT                                                   | 2003/12/12 09:03 |
| -        | 41171 | conver\$4 same data same type                                               | USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM TDB              | 2003/12/09 11:26 |
| -        | 2154  | conver\$4 same (data adj type)                                              | USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM TDB              | 2003/12/09 11:27 |
| -        | 380   | ((conver\$4 same (data adj type)) same code                                 | USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM TDB              | 2003/12/09 11:28 |
| -        | 116   | ((conver\$4 same (data adj type)) same<br>code) same program                | USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM TDB              | 2003/12/09 11:29 |
| -        | 45    | ((conver\$4 same (data adj type)) same<br>code) same program) same language | USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM TDB              | 2003/12/12 09:03 |
| -        | 967   | 715/513,501.1.ccls.                                                         | USPAT                                                   | 2003/12/12 09:03 |
| -        | 3     | ((DOCUMENT SAME CONVERT\$3 SAME FIELD))<br>SAME OPTIMIZ\$3)                 | USPAT                                                   | 2003/12/12 09:04 |
| -        | 24    | ((CONVER\$4 SAME (ROUTINE CODE PROGRAM))<br>SAME OPTIM\$4) SAME ATTRIBUTE   | USPAT                                                   | 2003/12/12 09:06 |
| -        | 2     | (CODE SAME CREAT\$3 SAME OPTIMIZATION) SAME<br>CONVERS\$6 SAME DYNAMIC      | USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM TDB              | 2003/12/12 09:07 |
| -        | 56    | 715/522.ccls.                                                               | USPAT                                                   | 2003/12/12 09:07 |
| -        | 124   | 715/523.ccls.                                                               | USPAT                                                   | 2003/12/12 09:08 |
| -        | 39    | 717/111.CCLS.                                                               | USPAT                                                   | 2003/12/12 09:14 |
| -        | 114   | 717/106.CCLS.                                                               | USPAT                                                   | 2003/12/12 09:16 |
| -        | 45    | ((conver\$4 same (data adj type)) same<br>code) same program) same language | USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM TDB              | 2003/12/12 10:43 |
| -        | 1     | 6502236.uref.                                                               | USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM TDB              | 2003/12/12 10:43 |

|    | Document ID   | Issue Date | Title                                                                                            | Current OR | Inventor                  | Image Doc. Displayed | PT                       |
|----|---------------|------------|--------------------------------------------------------------------------------------------------|------------|---------------------------|----------------------|--------------------------|
| 1  | US 6658625 B1 | 20031202   | Apparatus and method for generic data conversion                                                 | 715/523    | Allen, Paul V.            | US 6658625           | <input type="checkbox"/> |
| 2  | US 6621588 B1 | 20030916   | Output control method and apparatus, and output system                                           | 358/1.15   | Shimada, Muneki           | US 6621588           | <input type="checkbox"/> |
| 3  | US 6560774 B1 | 20030506   | Verifier to check intermediate language                                                          | 717/146    | Gordon, Andrew et al.     | US 6560774           | <input type="checkbox"/> |
| 31 | JP 11296359 A | 19991029   | PROGRAM DEVELOPMENT SUPPORT TOOL                                                                 |            | YOSHIKAWA, SATOSHI et al. | JP 11296359 A        | <input type="checkbox"/> |
| 32 | JP 06083630 A | 19940325   | AUTOMATIC PROGRAM CONVERTING DEVICE                                                              |            | FUJITA, TOMOYUKI          | JP 06083630 A        | <input type="checkbox"/> |
| 33 | NN9508111     | 19950801   | Switch Decisions Based on String Input in C                                                      |            |                           |                      | <input type="checkbox"/> |
| 34 | NN9405479     | 19940501   | Improved Remote Procedure Call Facility                                                          |            |                           | NN9405479            | <input type="checkbox"/> |
| 35 | NA9309153     | 19930901   | Usability/Serviceability Improvement and Value-Add Processing in File Transfer                   |            |                           | NA9309153            | <input type="checkbox"/> |
| 36 | NB9306509     | 19930601   | C Header Files Generated from Functional Specification                                           |            |                           |                      | <input type="checkbox"/> |
| 37 | NB9109320     | 19910901   | Application Migration From a 16-Bit Segmented OS/2 System to a 32-Bit Non-Segmented OS/2 System. |            |                           | NB9109320            | <input type="checkbox"/> |

|    | Document ID  | Issue Date | Title                                                                                                                                                              | Current OR | Inventor              | Image Doc. Displayed | PT                       |
|----|--------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------|----------------------|--------------------------|
| 38 | NN9010365    | 19901001   | Data Processing Product Design With No Internal Cables.                                                                                                            |            |                       | NN9010365            | <input type="checkbox"/> |
| 39 | NB8909262    | 19890901   | POWER TOOLS                                                                                                                                                        |            |                       | NB8909262            | <input type="checkbox"/> |
| 40 | NN871141     | 19871101   | Method for Generating Definition Listings Required by the Online: Presentation Control Language Program                                                            |            |                       |                      | <input type="checkbox"/> |
| 41 | NN86034224   | 19860301   | Message Interface Among Concurrent Processes Using an Abstract Data Type                                                                                           |            |                       | NN86034224           | <input type="checkbox"/> |
| 42 | NN78122876   | 19781201   | Direct Call of Microcoded Functions from PL/I. December 1978.                                                                                                      |            |                       |                      | <input type="checkbox"/> |
| 43 | EP 1174791 A | 20020123   | Unified data type system for processing programming language, has compiler which generates code for converting between unboxed and boxed value type representation |            | BOSSWORTH, G H et al. | EP 1174791 A2        | <input type="checkbox"/> |

|    | Document ID   | Issue Date | Title                                                                                                                                                                                                                                                                                     | Current OR | Inventor       | Image Doc. Displayed | PT                       |
|----|---------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------|----------------------|--------------------------|
| 44 | JP 11296359 A | 19991029   | Program development assistance tool using interface definition language - has information transducer which converts data type information to corresponding programming language information and accordingly registers code generation information based on which sub-program is generated |            |                | JP 11296359 A        | <input type="checkbox"/> |
| 45 | JP 11025100 A | 19990129   | Data base access system in client-server network system - investigates literal of passed SQL statement other than CHAR data type and converts it into SQL statement suitable for literal even with CHAR data type                                                                         |            | KIDO, A et al. | US 6212513           | <input type="checkbox"/> |

32 citations found. Retrieving documents...

P. Devanbu. GENOA/GENII - A Customizable, *Language- and Front-end- Independent Code Analyzer*. In Fourteenth International Conference on Software Engineering, Melbourne, Australia, 1992.

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Testing C Programs for Buffer Overflow Vulnerabilities - Haugh (2002) (Correct)

....parameter passed by the user to the rmdir(2) system call was missing. **The** kernel passed this string to strcpy(3) writing it into a stack allocated array. If the user supplied string was long enough, this array would overflow. 2.2. **7 GENOA GENOA is a framework for generating software analysis tools[8]**. To analyze source code, many tools typically parse the input le, build an abstract syntax graph (ASG) and then perform some series of operations on the ASG. **The** only major difference between these tools is what those operations are. **When** one wishes to build a new tool using GENOA, a specification....

P. Devanbu. GENOA/GENII - A Customizable, *Language- and Front-end- Independent Code Analyzer*. In Fourteenth International Conference on Software Engineering, Melbourne, Australia, 1992.

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Metrics for Design Space Exploration of.. - Sciuto, Salice.. (Correct)

....been developed and integrated in the tool suite supporting the design flow of Figure 1. **Due** the wide diffusion of C language (especially in the DSP field) a meaningful validation has been setup based on a C test suite. **A tool has been developed and integrated with a C C code analyzer (GENOA, [12]) The tool computes the affinity values for each system functionality that are then provided to the system design exploration tools.** The adopted benchmark suite is composed of 311 procedures; each one of them representing a specific functionality. **A** subset of these procedures (i.e. 100) has been ....

P. Devanbu. GENOA: A Customizable, *Language- and Front-end Independent Code Analyzer*. In Proceedings of ICSE '92, 1992.

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A Change Impact Model for Changeability Assessment.. - Chaumun, Kabaili.. (1999) (Correct)

....The prototype implements the model for the C language. **Figure 1: Prototype of change impact model (C )** Queries are defined to calculate the impact expressions. **These queries are themselves contained in scripts, i.e. high level specifications written in GEN , the C implementation of GENOA [9]**. Analyzers are generated from the scripts. **The** change type and the changed component are specified as input to a front end application written in C . Once the input is validated, the front end determines which analyzers are to be invoked, based on

Information on change (changed component and ....

P. T. Devanbu. GENOA - a customizable, *language and front-end independent code analyzer*. In Proceedings of the 14th International Conference on Software Engineering, pages 307-317, Melbourne, Australia, 1992.

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Evaluating a Focus+Context Zoom Interface in Complement with.. - Heinrichs (1998) (Correct)

....A prototype tool has been designed to integrate with the programmer's existing development environment to enhance tool adoption. **1. 1 Problem Statement In the software maintenance process, a significant amount of programmer time is spent trying to understand the target program to be modified [12, 15, 27].** This implies that increasing the efficiency of program understanding could have a great impact on the overall efficiency of software maintenance. **As** programs become larger and more complex, understanding them becomes more difficult. **Software** tools to support the program understanding process can ....

....by the analysis program are static. **Once** they have been generated, they do not change during browsing. **The** files are stored and served to the browsing system as required. **From the outset, it was intended that an existing software package be used for the generation of the source code hypertext [15, 39].** A modified version of Java ShowCase [42] was used, along with a host of ad hoc utilities, to produce the examples for this study. **The** call graph links were extracted from the source code by hand, but the source code parser could be modified to extract this information as well. **Aside** from time ....

Premkumar T. Devanbu. GENOA - A Customizable, *Language- and Front-End independent Code Analyzer*. In Proceedings for the Fourteenth International Conference on Software Engineering (ICSE), pages 307--319, 1992.

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A Method of Program Understanding using Constraint Satisfaction.. - Woods (1996) (3 citations) (Correct)

....of providing such information are available as commercial products. **One** system providing this ability is Refine [Burn, 1992] Other researchers have created similar tools as part of ongoing research, and under various kinds of agreements make them available for academic use. **One such tool is Genoa [Devanbu, 1992], a language independent code analyzer.** With Genoa, Devanbu and Eaves [Devanbu and Eaves, 1994] have constructed Gen, a proprietary tool which generates tools for analysis of C code. **Specifically,** Gen can generate tools which in turn generate annotated abstract syntax trees (ASTs) of C ....

....the ability to report necessarily negative results to a global explanation process. **CHAPTER 10. CONCLUSIONS 289** **whereas this work could be more profitably performed in advance of search through application of specialized data flow extraction routines such as offered in Refine [Burn, 1992] Gen [Devanbu, 1992, Devanbu and Eaves, 1994] or other similar tools.** This enhanced representational scheme will reduce the amount of effort required to check a particular constraint by limiting the range of focus around the involved components. **While** the current implementation of template matching is restricted to ....

P. Devanbu. GENOA/GENII - a customizable, *language- and frontend - independent code analyzer*. Proceedings of the 14th International Conference on Software Engineering, 1992.

Template-Assisted Program Restructuring with Application to.. - Marshall (2000) (Correct)

....systems. It is essentially a crossreferencing tool which allows queries to be expressed on a relational database that stores information about the elements of interest in a C program. **The tool supports queries about functions, global variables, global types, and macros in C programs. genoa [19, 20] is an application generator specialized to generate a range of code analysis tools.** Programs are modelled as collections of nodes, with the nodes having types (function, statement, expression, etc. and slots (attributes or children) Coupled with this model is a specification language for ....

Premkumar T. Devanbu. genoa --- a customizable, *language- and front-end independent code analyzer*. In Proceedings of the 14th International Conference on Software Engineering, pages 307--317, 1992. (cited on page 12)

Software Architecture Recovery - Sartipi, Kontogiannis, Mavaddat (1999) (Correct)

....processor. **Typical** facilities of such environments include: parser generator to parse the target system, mechanisms for storing and manipulating the internal representation of the target system, a language for developing the application, and reporting or visualizing facilities. **Refine [75] Genova [28], DECODE [25] are examples.** Some frameworks provide a tool integration infra structure for communicating among tools of different vendors, e.g. Dali [53] Integration of the visualization facilities of 3 other reverse engineering tools can greatly improve the usability and expressiveness of the ....

....in a program representation and the ease of accessing these information, are the important considerations in selecting a program representation. **In representing a source model, recent trends are towards using AST for preserving all useful information and annotating other information to its nodes [28, 34, 48, 43].** An approach may provide links among the AST nodes and their corresponding parts of data and or control flow graphs as a convenient and multi purpose search space. **In our approach, the target program, i.e. data for the analysis engine, is a large program in one of the Refine supported ....**

[Article contains additional citation context not shown here]

P. T. Devanbu. Genoa - a customizable, *language and front end independent code analyzer*. In Proceedings of the 14th ICSE, pages 307--317, May 1992.

CoffeeStrainer: Statically-Checked Constraints on the Definition .. - Bokowski (1999) (Correct)

....compile time. **Three** systems that are very similar to CoffeeStrainer will be discussed according to the key points of the discussion from section 2, the criteria completeness, conciseness, modularity, and efficiency. 5.1 Other Systems There are several systems which are similar to CoffeeStrainer. **GENOA [4], a customizable code analyzer which can be interfaced to existing**

**language front ends, provides a LISP like query language that applies to the complete AST of a program under examination.** The C Constraint Expression Language CCEL [2] allows to specify statically checked constraints on ....

P. T. Devanbu. GENOA - A customizable, *language- and front-end independent code analyzer*. In Proceedings of the 14th International Conference on Software Engineering, pages 307-317, May 1992.

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Software Architecture Recovery for Distributed Systems - Mendonça (1999) (Correct)

....5.2 Extraction tools The code analyser extracts both syntactic and structural program information of interest from a given set of source code les. **It was generated with gen [DE94a] which is an instantiation for C of the genoa language retargetable source code analysis framework [Dev92] gen provides a concise, domain specific language to specify queries over the AST of a program.** Given a query specification, gen generates an executable code analyser that is capable of parsing, type checking and semantically processing C les. **For each le processed, the analyser builds an ....**

....Parsing tools, though brittle and heavyweight, enable a more precise matching of syntactic 7.2 Reverse engineering of structural source models 116 constructs by building a parse tree from the code, and traversing and performing actions on the parse tree. **Examples of parsing tools include GENOA [Dev92, Dev99] A [LR95] Scruple [PP94] tawk [GAM96] and Microsoft's ASTLOG [Cre97] Execution profiling tools, such as prof and gprof [GKM83] can also be used to extract structural source models.** All the above types of extraction tools generate structural program information in plain text format. ....

Premkumar T. Devanbu. GENOA | A Customizable, *Language- and Front-End Independent Code Analyzer*. In Proceedings of the 14th International Conference on Software Engineering (ICSE), pages 307-317. IEEE CS Press, May 1992.

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Design Properties and Object-Oriented Software.. - Chaumun, Kabaili.. (2000) (1 citation) (Correct)

....change impacts, we have developed an environment that implements the change impact model for the C language (see Figure 1) The environment provides a repository based solution. **The test system source code is parsed by a parsing tool, e.g. a compiler. GEN, the C implementation of GENOA [9], was used in this extraction process.** The parsed information contains data about all the classes and links in the system. **This** information is captured and fed into a design repository. **The** schema of the design repository is based on our extended UML (Unified Modeling Language) metamodel 1.1 [25] ....

P. T. Devanbu. GENOA - a customizable, *language and front-end independent code analyzer*. In Proceedings of the 14th International Conference on Software Engineering (ICSE'92), Melbourne, Australia, pages 307-317, May 1992.

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Program Comprehension in Multi-Language Systems - Kullbach, Winter, Dahm, Ebert (1998)



(3 citations) (Correct)

....structure: Source codes are translated into a general data structure which is analyzed afterwards. **Different choices for representing source code information exist, such as relational databases [30] 5] 20] PROLOG databases [26] 3] object oriented databases [31] 34] abstract syntax trees [12], 34] 42] 7] LISP images [33] or hybrid knowledge bases [25] The repository structures are described in terms of textual languages [42] entity relationship languages [25] 3] or formal algebraic models [34] Coarse grained repository definitions are given for a PASCAL like language [30] ....**

P. T. Devanbu. GENOA -- A Customizable, *Language and Front-End independent Code Analyzer*. Proc. 14th International Conference on Software Engineering, Melbourne, pages 307--317, 1992.

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Fast, Flexible Syntactic Pattern Matching and Processing - Griswold, al. (1996) (Correct)

....of each. 1] # usr local bin mawk f [2] 3] # initialize regular expressions [4] BEGIN [5] WS = t n] 6] ID = a zA Z0 9 ] 7] IDCC = a zA Z0 9 ] 8] CALL = ID WS ( 9] DEFN = ID WS ( 10] KYWD = for while do switch if typedef [11] KYWDIC = IDCC (KYWD) IDCC # token [12] OUTSIDE = 1 [13] RS= n.n # rec. sep. is blank line [14] 15] 16] # When inside a procedure definition [17] OUTSIDE [18] s = 0 [19] while (s = 20] if ( start = match(s, CALL) 21] match (substr(s, start) ID) 22] len = RLENGTH [23] if ( match(substr(s, start, len) 24] ....

.... lexical approaches to make the matching of pro [1] comment [2] 3] type ] fn [4] if kywdq(fn) opq(fn) then fail [5] param ] atype ; 6] 7] cn [8] if kywdq(cn) opq(cn) then fail [9] arg [ 10] writeCall ( fn, cn ) 11] [12] [13] procedure writeCall(fn, cf) 14] static idch [15] initial idch : ucase [16] lcase digits ) 17] 18] realfn : fn (tab(upto(idch) tab(0) 19] realcf : cf (tab(upto(idch) tab(0) 20] return write(realfn, realcf) 21] end [22] 23] # true if a keyword [24] ....

[Article contains additional citation context not shown here]

P.T. Devanbu. GENOA -- a customizable, *language- and front-end independent code analyzer*. In Proceedings of the 14th International Conference on Software Engineering, pages 307--317, May 1992.

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Requirements for an Effective Architecture Recovery Framework - Mendonça, Kramer (1996) (Correct)

....RE environments where a data repository is used to store the annotated AST representation, and a specific query language is provided as a means of accessing the repository. **Analysis tools are left to be defined (as queries written in the provided query language) by the user. Refine [2] and Genoa [6] are examples of such environments, and their framework is shown in figure 4.** An AST is a good representation for the process of architecture recovery since it contains all relevant source code constructs. **However**, ASTs are complex structures that contain a large number of language dependent ....

P. T. Devanbu. GENOA -- A Customizable, *Language and Front-End Independent Code Analyzer*. In Proc. 14th ICSE, pages 307--317. IEEE, May 1992.

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Program Comprehension in Multi-Language Systems - Kullbach, Winter, Dahm, Ebert (1998)  
(3 citations) (Correct)

....structure: Source codes are translated into a general data structure which is analyzed afterwards. **Different choices to representing source code information exist, such as relational databases [28] 5] 18] PROLOG databases [24] 3] object oriented databases [29] 32] abstract syntax trees [11], 32] 40] 6] LISP images [31] or hybrid knowledge bases [23] The repository structures are described in terms of textual languages [40] entity relationship languages [23] 3] or formal algebraic models [32] Coarse grained repository definitions are given for a PASCAL like language [28] ....**

P. T. Devanbu. GENOA -- A Customizable, *Language and Front-End independent Code Analyzer*. Proc. 14th International Conference on Software Engineering, Melbourne, pages 307--317, 1992.

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Collating Results of Syntactic Searches by Context - Bowdidge (1999) (Correct)

....and understanding the current structure of the system. **Searches** in commercial tools do not facilitate the how questions. **Whether searching using lexical [1, 15] or syn Author contact information: e mail:bowdidge watson.ibm.com, phone (914) 784 6580, fax (914) 784 6576 tactic information [2, 5, 6, 13, 14], searches for uses of an declaration are generally displayed in a grep like fashion, with each use represented by a line of output listing the containing file name and line number for the use, followed by the matching line of source code. Grep s presentation simplifies certain tasks such as ....**

P. T. Devanbu. Genoa - a customizable, *language- and frontend independent code analyzer*. In International Conference on Software Engineering, pages 307--317, 1992.

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Visualizing Interactions in Program Executions - Jerding, Stasko, Ball (1997) (14 citations) (Correct)

....to be useful abstractions to help bridge this gap. **The work with the P1 prototype thus motivated the development of the compact message trace representation and the views implemented in P2. Example The process of using P1 includes several steps: 1) static analysis of the source code using gen [7], 2) automatic annotation of source code by a Perl script which places tracing objects in the code as described by O Riordan[23] 3) compilation and execution of the annotated source to generate dynamic event trace files, and 4) visualization of the information in the trace files. Two Execution ....**

P. Devanbu. *A language and front-end independent code analyzer*. In Proceedings of the International Conference on Software Engineering, Australia, May 1992.

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Reuse Through Inheritance: A Quantitative Study of C++ Software - Bieman, Zhao (1995)  
(5 citations) (Correct)

....from all available sources to further learn how developers actually use the features of object orientation. **We are extending the Jasmin tool, and we are developing additional measurement tools using the GEN tool generation system from AT T, which is based on the GENOA tool specification language [9].** We are developing measurement tools to quantify additional Table 5: Number of Children Parents in C System Classes Number of Children Number of Parents with 1 System Mean Median Max Mean Median Max (multiple inherit. Lang. Tools: EC 0.6428 1 3 0.6428 1 2 7.14 libg 2.5 0.4452 0 ....

P. Devanbu. GENOA a customizable, *language- and front-end independent code analyzer*. Proc. Int. Conf. Software Engineering (ICSE), pages 307--317, 1992.

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SOOP - A Synthesizer of an Object-Oriented Parser - Gil, Lorenz (1995) (2 citations) (Correct)

....C syntax is not context free. 1 Its complexity, size and weight in the industrial world generated many independent attempts [27, 38, 10, 33] at building systems for translating a C source code into a more accessible form. **CodeStore [4] for C is currently under development at IBM. GENOA [6] is a language independent system for code analysis that can be interfaced to parse trees generated by other compilers.** In comparison, Soop is a complete environment which also encompasses the task of parsing the input language. In that it should be compared to the Grail environment which is ....

P. Devanbu. GENOA - a customizable, *language and front-end independent code analyzer*. In Footeenth International Conference on Software Engineering, Melbourne, Australia, May 1992.

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Lightweight Source Model Extraction - Gail Murphy (1995) (14 citations) (Correct)

....creating a parser and parse tree representation is time consuming and difficult for the engineer, several research efforts have developed approaches to generate a parser and parse tree representation based on a syntactic specification of the language and the desired parse tree. **The Genoa system [Dev92] supports a wide range of user defined analyses of parse trees created from existing compiler front ends.** The SOOP system [GL94] takes as input a specification for the grammar of the source language to be analyzed and a specification of the parse tree to be created, and generates a parser to ....

P.T. Devanbu. GENOA - A Customizable, *language- and Front-end Independent Code Analyzer*. In Proceedings of the 14th International Conference on Software Engineering, pages 307--317, May 1992.

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An Examination of the Behavior of Slice Based Cohesion Measures - Karstu (1994)  
(4 citations) (Correct)

....received for the research in late fall of the same year. **GEN** is a C extension to GENOA, a language independent specification language and analyzer generation system. It is based on an

abstract semantic graph representation of the program gtree. **For more information on GENOA or GEN , refer to [5] or [6]** 3.2.2 SLI C, SLI M, SLI MET; Tools Developed for This Study SLI C a tool for obtaining metric slices from C programs. **SLI C** was developed by using GEN . It first calculates the backward slices using the relevant variable sets. **After** this is done, SLI C calculates the forward ....

P. Devanbu. GENOA a customizable, *language- and front--end independent code analyzer*. In Proceedings of International Conference on Software Engineering (ICSE), pages 307--317. IEEE Press, 1992.

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Analytical and Empirical Evaluation of Software Reuse.. - Devanbu, Karstu, Melo.. (1996)  
(1 citation) Self-citation (Devanbu) (Correct)

....data We have built the software tool infrastructure to gather data about 4 different reuse measures: our R sf metrics, the RSI metric used by Poulin and others, and the RL and RF metrics of Frakes and Terry. **Our tools have 3 elements. First, we have a static analyzer, built with the GEN [5] analyzer generator, which analyses C programs and generates call graph and function size information.** This information is generated into flat files. **These** are then processed by a relational database system (Daytona [11] which supports such features as transitive closure (which is needed to ....

P. Devanbu. genoa a customizable, *language and front--end independent code analyzer*. In Proc. of 14th Int'l Conf. on Software Engineering (ICSE), pages 307--317. IEEE Press, 1992.

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How To Write a GEN++ Specification - Prem Devanbu Artificial (1993) (4 citations) Self-citation (Devanbu) (Correct)

....D R A F T release 1.1, June, 1994 1 1 Introduction In this tutorial style manual document, we describe the use of gen , an application generator for creating code analyzers for C programs. **gen is based on a language independent specification language and generation system called genoa [1]** . This document is structured as follows: we begin with an illustrative example to explain the general structure of a language tool, and the basic notion of the abstract semantic graph representation of an input program. **We** then explain the basic fundamentals of genoa, the underlying portable ....

Devanbu, P., *A Language and Front-end Independent Code Analyzer*, Proceedings, International Conference On Software Engineering, Melbourne, Australia, May 1992.

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Analytical and Empirical Evaluation of Software Reuse Metrics - Prem Devanbu (1996)  
(1 citation) Self-citation (Devanbu) (Correct)

....Product data We have built the software tool infrastructure to gather data about 4 different reuse measures: our R sf metrics, the RSI metric used by Poulin and others, and the RL and RF metrics of Frakes and Terry. **Our tools have 3 elements. First, we have a static analyzer, built with the GEN [6] analyzer generator, which analyses C programs and generates call graph and function size information.** This information is generated into flat files. **These** are then

processed by a relational database system (Daytona [12] which supports such features as transitive closure (which is needed to ....

P. Devanbu. genoa a customizable, *language and front--end independent code analyzer*. In Proc. of 14th Int'l Conf. on Software Engineering (ICSE), pages 307--317. IEEE Press, 1992.

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Bridging Program Comprehension Tools by Design Navigation - Robitaille, Schauer, Keller (2000) (2 citations) (Correct)

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Devanbu, P. T. GENOA -- a customizable, *language and front-end independent code analyzer*. In Proceedings of the 14th International Conference on Software Engineering (ICSE'92), pages 307-317. Melbourne, Australia. 1992.

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Soop : A Synthesizer of an Object-Oriented Parser - Gil, Lorenz (1994) (2 citations) (Correct)

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1. [GEN++ -- an analyzer generator for C++ programs](#)  
... tree representation built by any language front end (that is implemented in C). It is ported to a new language front end by writing a specification in GENII. ...  
<http://www.cs.ucdavis.edu/~devanbu/gen++-ps>
2. [Premkumar Devanbu - Abstract, Department of Computer Science](#)  
... GENOA/GENII is a framework that allows a) the reuse of existing ... the framework, present some theoretical properties of the specification language, and some ...  
<http://www.cs.ucdavis.edu/departmen/colloquia/96-97/devanbu.html>
3. [Citations: Genoa -- a customizable - Devanbu \(ResearchIndex\)](#)  
... A rough rule of thumb would be that the time to write a GENII specification for an interface to a front end for a given language grows linearly with the size ...  
<http://citeseer.nj.nec.com/context/110956/0>
4. [Citations: language and front-end independent code analyzer - ...](#)  
... GENOA/GENII - a customizable, language- and frontend - independent code analyzer ... attributes or children) Coupled with this model is a specification language for ...  
<http://citeseer.nj.nec.com/context/40175/0>
5. [A Relations-Based Approach for Simplifying Metrics Extraction 1. ...](#)  
... A GENII specification is then written to detail how the GENOA system should ... new C++ analyzer tool by writing a domain specific language specification for GENOA ...  
[http://www.unibz.it/web4archiv/objects/pdf/cs\\_library/2/ARelations-BasedApproachforSimplifyingMetricsExtraction.pdf](http://www.unibz.it/web4archiv/objects/pdf/cs_library/2/ARelations-BasedApproachforSimplifyingMetricsExtraction.pdf)
6. [ICSE: ICSE '92, GENOA: a customizable language- ...](#)  
... 7 METATool Specification Driven Tool, System Overview, AT&T Bell ... 10 Devanbu, P. GENOA/GENII - A flexible ... DM Ritchie, The C programming language, Prentice-Hall ...  
<http://portal.acm.org/citation.cfm?id=143062.143148&dl=GUIDE&dl=ACM&type=series&idx=SERIES402&#Proceedings&WantType=Proceedings&title=International%20Conference%20on%20Software%20Engineering&CFIL>
7. [CCC-0601: GENII-1.485, Environmental Radiation Dosimetry System](#)  
... PROGRAMMING LANGUAGE(S) USED - CCC-0601/02: FORTRAN-77. 13. ... CCC0601\_02.045 Path and filename specification file 50 ... 046 Self-extracting file (GENII source files ...  
<http://www.nea.fr/abs/html/ccc-0601.html>
8. [Technical Support | OSLO | OSLO Rev. 6.1 Editions Comparison | ...](#)  
... and ordinary ray action y Specify ray action ... Direct wavelength/weight specification yyy Table of common ... to existing error function yy GENII error function yyy ...  
<http://www.lambdare.com/products/oslo/editions.phtml>
9. [Generating Testing and Analysis Tools with Aria](#)  
... A Genii specification looks very much like a grammar specification as found in other language-based generation tools. Figure 2 presents ...  
<http://www.ics.uci.edu/~dsr/old-home-page/acmtosem9601.ps.gz>
10. [Collection of papers on Artificial Intelligence and software ...](#)  
... Using a Hybrid Approach GENOA/GENII - A Portable ... Workbench and the Refine Language Tools Automatic ... Modeling Software Inductive Specification Recovery: Cohen ...  
[http://students.db.erau.edu/~lowhid/AI\\_bib.txt](http://students.db.erau.edu/~lowhid/AI_bib.txt)

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